

**Nashville State Community College
Science Technology Engineering Math Division
Industrial Process Control Technology**

2018 Master Course Syllabus

IPCT 2345 Instrumentation III

Course Information:

Course Title: IPCT 2345 Instrumentation III
Credits: 3 Credits
Class Hours: 2 Class Hours, 2 Lab Hours

Course Description:

Topics include terminating conductors, grounding and shielding, process control theory, controllers, digital logic circuits, instrument calibration and configuration, commissioning and performing loop checks, loop tuning, PLC, distributive control and analyzers. Prerequisite(s): IPCT 2340

Instructor Information:

Name:
Email:
Office Phone:
Office Location:
Office Hours:

Required Textbook(s) & Other Materials:

Textbook(s): Instrumentation Level 3 Trainee Guide, Paperback, 3rd Edition
ISBN-10: 0-13-413095-2
ISBN-13: 978-0-13-413095-8
AND
Instrumentation Level 4 Trainee Guide, Paperback, 2nd Edition
ISBN-13: 9780134495323

Reference Materials: None

Supplies: Pencils, Pens, Highlighters, Notepaper

Once enrolled, all students should verify that they have the correct textbook and materials information by consulting the D2L/NS Online shell for the course. If you are registered with the Access Center and require an alternate format for the textbook and other course materials, please contact the Access Center at 615-353-3721, 615-353-3741, or accesscenter@nsc.edu.

Course Outcomes:

Upon successful completion of this course, students should be able to:

- Identify and demonstrate proper instrumentation safety techniques
- Identify and demonstrate proper termination of conductors
- Identify and demonstrate proper loop commissioning
- Demonstrate understanding of process control theory
- Identify and demonstrate the proper installation and use of analyzers

Course Competencies:

Demonstrated through NCCER Performance Evaluations (PVs) following successful completion of testing at a grade of 70 or above. (See course Assessments)

Topics to Be Covered:

- Instrumentation Switches and Photoelectric Devices
- Termination, Grounding and Shielding of Conductors
- Process Control Theory
- Controllers
- Instrument Calibration and Configuration
- Instrumentation Loops, Commissioning and Tuning
- Digital Logic Circuits
- Introduction to Programmable Logic Controllers
- Introduction to Distributed Control Systems
- Analyzers and Monitors

Course Assessments:

The following performance assessments will be used to demonstrate students' understanding, knowledge, and skills:

A student's mastery of the learning outcomes will be assessed through both module exam and performance evaluation as determined by The National Center for Construction Education and Research (NCCER). The student must pass each module assessment with a score of 70% in order to take the performance evaluation. Performance evaluations (PV) are graded as Pass/Fail and must be successfully completed in order to obtain grading credit for the module PV.

This is an NCCER class. Tests will be graded as follows:

- 1) All module exams must be passed with a 70% or higher to become "knowledge verified" through NCCER.
- 2) Any exams not passed at this level can and should be retaken. One re-take is allowed.
- 3) Although the student may make above a 70 on the re-take and become knowledge verified with NCCER, the grade of record for the NSCC grade will be the grade made on the first attempt. (See example below)
- 4) A score of 70 or above (initially or re-take) is required in order to allow the Performance Verification score.
- 5) Students with an unexcused absence on the day of a module exam will receive a zero (0) on the module exam for NSCC class scoring; however, the student will be able to retake the exam for NCCER "knowledge verification" purposes.
- 6) Students who know they will be absent in advance, and inform their instructor, will be given opportunity to test early without penalty.

Class notes, handouts, practice exercises and your textbook are excellent resources to prep for module exams. Written assignments will periodically be assigned for you do outside of class. Along with the required reading, the homework will guide you and require summarizing key points, conducting research or answering questions.

Example:

A student scores a 56 on his first module exam attempt. He/She re-takes the exam and scores a 72. The 72 now applies to the NCCER as being knowledge verified; however, the original score of 56 is the grade that applies for the NSCC class.

Late Work Policy & Make-up Procedures for Missed Assignments and Work:

Late work and ability to re-test is covered in the Attendance Policy section. Missed Assignments are covered in Course Assessments section.

Attendance Policy

Students are expected to attend all scheduled classes and laboratories. Absences in a course may affect a student's final grade. The student is responsible for all assigned work in the course regardless of excused or unexcused absences. Tardiness may also affect a student's final grade.

Attendance will be included as part of the student's grade. The student will be awarded an attendance grade of 100 for perfect attendance. Each absence, both excused and unexcused, will result in an attendance grade reduction of 4 points for a maximum of 8 absences. A student with 9 or more absences will be awarded an attendance grade of 0.

Excused Absences allow the student to make-up any assignments or tests without penalty.

Excused Absences include:

Sickness with a doctor's note and /or Death of immediate family member

Grading Policy:

The Grading Policy is covered within the course assessment section above.

Grading Scale:

Letter Grade	Percentage Range
A	90.0 – 100.0
B	80.0 – 89.9
C	70.0 – 79.9
D	60.0 - 69.9
F	Below 59.9

- **FA** According to NSCC policy, an FA is awarded to students who do not officially withdraw from a course and do not attend after the cut-off date provided in the academic calendar. Students with an F average **whose last date of attendance** is on or before 11/2/2018 will receive an FA; students with an F average, **whose last day of attendance** is after 11/2/2018 will receive an F.
- **FN** An FN grade is awarded to students who never attended class.
- **W** The last day to withdraw from the course with a W is **Wednesday, October 31st**.

CLASS PARTICIPATION POLICY

Class participation is essential to the student's educational development as well as preparation for employment in an industrial environment. Therefore, students will be graded by their instructor on their participation in classroom discussions and any assigned group efforts. The student will be awarded up to a maximum of 100 points toward their final grade.

Technology Statement

Nashville State's classes are considered to be web-enhanced. Faculty have an expectation that students will use a computer and the Internet to complete assignments, engage in online discussions, and access various course materials through D2L/NS Online course shells. Computers are available for student use at each campus during campus open hours.

D2L/NS Online and myNSCC

It is students' responsibility to check D2L/NS Online course shells for all enrolled courses and myNSCC, including student email, on a regular basis. These are the official communication channels between the college and students, who are responsible for the information communicated through those channels. D2L/NS Online contains specific course information and myNSCC contains information important for other purposes.

ADA Compliance Statement

Nashville State complies with the Americans with Disabilities Act (ADA). If you require accommodations for any courses in which you are enrolled, contact the Access Center at 615.353.3741 or 615.353.3721, or e-mail accesscenter@nsc.edu. If you are registered with the Access Center and require an alternate format for the textbook and other course materials, please contact the Access Center.

Classroom Misconduct

Nashville State Community College has a zero-tolerance policy for disruptive conduct in the classroom. Students whose behavior disrupts the classroom will be subject to disciplinary measures. Please review the [Nashville State Student Code of Conduct policy](#). Please be aware that children are not allowed in class or to be left unattended on campus.

Academic Misconduct

Any form of academic dishonesty, cheating, plagiarizing, or other academic misconduct is prohibited. Students are responsible for understanding and abiding by the [Academic Misconduct Policy](#) in the Nashville State Student Code of Conduct. In addition to other possible disciplinary measures that may be applied through regular college procedures as a result of academic dishonesty, the instructor has the authority to assign an "F" or a "zero" for the exercise, paper, or examination, or to assign an "F" for the course. Students may appeal through the appropriate college grade appeal procedures.

Academic Early Alert System

Nashville State Community College uses an Early Alert System to let students know of a faculty member's concern in one or more of these academic areas: lack of attendance, lack of classroom participation, late or missing assignments, and/or poor performance on assignments/tests. *Please note that Early Alerts do not affect a student's academic standing. If you receive an Early Alert email, please see your instructor and your academic advisor as soon as possible.

RAVE Emergency Alert System

Emergency events can happen at any time and Nashville State Community College wants to be able to notify students if and when they occur. For this reason, all students have been enrolled in the free RAVE alert system. If you have not already done so, please log in at <https://www.getrave.com/login/nscc> to confirm and update your contact information and notification preferences. It is critical that your information be correct so that you will receive any emergency notifications. Your RAVE Username is your NSCC email address. If you've never received an email from RAVE with your password, or if you need to reset your password, select "Forgot your password?" and a new password will be emailed to you. Should the RAVE system indicate "user not found", select Register and create your own RAVE account.

Inclement Weather & Campus Closings

Nashville State will use the RAVE alert system to send a text message to students, staff, and faculty about adjusted hours of operation and/or closings at individual campuses. All students should check the Nashville State web site home page at www.nsc.edu for announcements on campus closures, which may vary from campus to campus. Campus closures will also be announced on local television stations. Students should use their own best judgment in determining whether to report to campus during inclement weather when classes are not cancelled.

Even when campuses are closed, students are still responsible for completing all assigned work. When classes are cancelled, faculty will post online assignments and any additional instructions in the D2L/NS Online course shell. Check D2L/NS Online for a message from your instructor regarding your online assignment requirements. Faculty have discretion over adjusting deadlines or due date for assignments, but students are responsible for completing all assigned work by the due date established by the instructor.

Class Cancellation Policy

If the class is cancelled, the instructor will notify all students by posting in the D2L/NS Online course, e-mailing through D2L/NS Online, and/or by posting a sign on the classroom door. In the event of class cancellation, students must access D2L/NS Online to complete classwork and the assignment that will be posted in the course D2L site.